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10/590,926

07/25/2007

Keisuke Kajihara

14434.110USWO

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52835

7590

04/04/2008

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.

P.O. BOX 2902

MINNEAPOLIS, MN 55402-0902

EXAMINER

CROUSE, BRETT ALAN

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/590,926 | Applicant(s) KAJIHARA ET AL. | |
| | Examiner Brett A. Crouse | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060828;20061127;20080321</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements, filed 28 August 2006 and 27 November 2006, list WO 94/12443 and JP 2004-68241. Copies of the references have not been received. The references listed above have not been considered.

The information disclosure statement, filed 21 March 2008, lists EP 0285094 and EP 0798356. Copies of the references have not been received. The references listed above have not been considered.

Specification

The disclosure is objected to because of the following informalities:

Page 7, line 17, the phrase "terpolymer latek". The word latek seems misspelled. Alternatively, "terpolymer latex" is suggested.

Appropriate correction is required.

Claim Objections

Claims 3 and 6 are objected to because of the following informalities:

Line 4 of claim 3 and line 5 of claim 6, recite "terpolymer latek". The word latek seems misspelled. Alternatively, "terpolymer latex" is suggested.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al., US 5,523,154, hereinafter known as Okamura, in view of Girgis, US 4,476,191, hereinafter known as Girgis.

Okamura teaches:

Abstract, teaches a treating agent comprising (A) a rubber latex which further comprises a nitrile group, and additionally possesses an iodine value of 120 or less, (B) a second rubber latex, and (C) resorcinol/formaldehyde condensate. The relative amounts by weight of (A), (B), and (C) are 15 to 80 percent, 5 to 70 percent, and 2 to 15 percent respectively. The passage additionally teaches a glass fiber treated with the treating agent and a rubber article comprising the treated glass fiber.

Column 3, lines 46-59, teach the second rubber latex possesses an iodine value of 200 or more.

Column 5, lines 4-15, teach coating a glass fiber, embedding the glass fiber in unvulcanized rubber, and vulcanizing the combination.

Column 5, lines 27-43, teach the primary coating layer can have a secondary coating layer deposited thereon.

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Column 8, line 62 through column 9, line 14, example 2, teaches a treating agent composition comprising a nitrile containing latex, a water-soluble resorcinol/formaldehyde condensate, a vinylpyridine/butadiene/styrene terpolymer latex, and a chlorosulfonated polyethylene latex.

Column 7, lines 48-52, example 1, teach the treating agent is applied to the glass fibers in the amount of 20 weight percent.

Okamura does not teach:

Okamura provides as a suitable example of resorcinol-formaldehyde condensation a reaction in alkaline medium. Okamura is silent with regard to the formation of the resorcinol-formaldehyde condensation product in an acidic medium (novolac condensation). Okamura is also silent with regard to phenolic products other than resorcinol-formaldehyde condensates.

Girgus teaches:

Abstract, teaches a two step method for forming an adhesive system. The first step provides the formation of an aldehyde resin mixture and the second step mixes the aldehyde resin mixture with one or more elastomeric materials and additives. The system is used to coat filamentary materials for use as reinforcement materials in rubber.

Column 1, line 67 through column 2, line 4, teaches that it is known in the prior art to form a resorcinol-formaldehyde product in an alkaline medium.

Column 4, lines 45-52, teach the pH of the first step of the process is preferably between about 3.5 to 5.5. This is equated with a Novolac type reaction. Girgus teaches in the

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background, column 2, lines 46-51, the first step of the reaction under acidic conditions.

The second step of the process is under alkaline conditions.

Column 6, line 22-59, teach a mole ratio of formaldehyde to resorcinol in the range of about 0.8 to about 1.5. The passage also teaches pH range of about 3.5 to 5.5 prevents undesirable cross-linking.

Column 5, lines 41-60, teach the two step process results in toughness while maintaining flexibility.

Column 5, line 61 through column 6, line 32, teaches that mixtures of phenols and mixtures of aldehydes can be used to form the condensation product(s). Phenolic compounds having one OH group such as phenol are taught.

Column 7, line 64 through column 8, line 14, teaches the phenolic aldehyde resin can be suitably used with various rubbers including vinylpyridine-styrene-butadiene.

Column 8, line 64 through column 9, line 1, teaches the coating of various types of fibers with the composition. Glass fibers are a preferred material.

It would have been obvious to one of ordinary skill in the art to form a phenolic-aldehyde condensation product in an acidic medium as taught by Girgus and use this reaction product in the composition of Okamura in order to provide a composition which would improve the toughness while maintaining the flexibility of the material of Okamura, such as for subsequent use in the flexible rubber belt of Okamura.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is (571)-272-6494. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. A. C./
Examiner, Art Unit 1794

/Terrel Morris/
Supervisory Patent Examiner
Group Art Unit 1794